



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

Ar

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,779	01/24/2002	Tomonobu Matsuda	KNI-159-A	9335

21828 7590 09/25/2003

CARRIER BLACKMAN AND ASSOCIATES  
24101 NOVI ROAD  
SUITE 100  
NOVI, MI 48375

EXAMINER

AL NAZER, LEITH A

ART UNIT PAPER NUMBER

2828

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/057,779	MATSUDA ET AL. <i>LL</i>
	Examiner Leith A Al-Nazer	Art Unit 2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 27 June 2003.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-3,6-10,13-15 and 17-19 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 1,7-10 and 13 is/are allowed.

6) Claim(s) 2,3,6,14,15 and 17-19 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

*Paul IP*  
PAUL IP  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

- 1) Certified copies of the priority documents have been received.
- 2) Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- 3) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_

4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 1, 7-10, and 13 are allowed.

2. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach all the limitations found in independent claims 1, 7, and 10.

Kazuo teaches a similar system to that of the present invention. However, Kazuo does not teach pumping laser light having a core axis which forms a predetermined non-linear angle with respect to the optical axis of the laser medium, as is required by claim 1. Also, Kazuo does not teach “setting angle adjusting means,” as is required by claims 7 and 10. Therefore, independent claims 1, 7, and 10, as well as depending claims 8, 9, and 13, are allowable over the prior art of record.

3. Claim 3 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2, 3, 6, 14, 15, and 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 2 and 14 do not claim the main aspect of the invention. Both claims fail to provide structure for preventing the pumping of laser light from irradiating back upon the semiconductor laser, which is the main focus of the invention (see page 5, lines 18-25 of the specification).

Independent claim 18 omits essential structural elements. Among the omitted elements is a concave mirror, which is present in all the embodiments of the present invention.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 2, 6, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by DeFreez et al '642.

With respect to claims 2 and 6, DeFreez teaches a light scattering particle detector for detecting particles contained in sample fluid which defines a flow path, the particle detector comprising a semiconductor laser (“Diode Laser Pump” in figure 1) and a concave mirror (66) disposed between the flow path and the semiconductor laser, wherein laser light generated from

the semiconductor laser is condensed to irradiate upon the flow path with the concave mirror and thereby a particle detecting region is defined.

With respect to claims 18 and 19, DeFreez teaches a laser oscillator in which pumping laser light (“Diode Laser Pump” in figure 1) generated from a semiconductor laser is condensed to irradiate upon a laser medium (64) with a condenser lens (“Mode Matching Optics” in figure 1), the laser medium being pumped, and thereby laser light is irradiated, wherein the optical axis of the semiconductor laser has a predetermined angle with respect to the optical axis of the laser medium.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 14, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeFreez et al '642.

With respect to claims 14, 15, and 17, DeFreez teaches a laser oscillator in which pumping laser light generated from a pumping light source ("Diode Laser Pump" in figure 1) is condensed to irradiate upon a solid-state laser (64) with a condenser ("Mode Matching Optics" in figure 1) and laser light irradiated from the solid-state laser is allowed to reflect back to the solid-state laser from a reflector (48). Claims 14 and 15 require at least one of the condenser and the reflector have a surface having different radii of curvature in the parallel direction and the perpendicular direction with respect to the flow path. The radii of curvature of both the condenser and the reflector would be a matter of design choice based on the desired focal length and concentration of light required by one's system.

*Response to Arguments*

11. Applicant's arguments, see pages 12 and 13 of amendment, filed on 27 June 2003, with respect to claims 1, 7-10, and 13 have been fully considered and are persuasive. The rejection of claims 1, 7-10, and 13 has been withdrawn.

12. Applicant's arguments with respect to claims 2, 3, 6, 14, 15, and 17 have been considered but are moot in view of the new ground(s) of rejection.

***Communication Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A Al-Nazer whose telephone number is 703-305-2717. The examiner can normally be reached on Monday-Friday 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3329.

LA

*Paul Ip*  
PAUL IP  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800